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ABSTRACT

Data based on the Higher Education General Information Survey (HEGIS) for the years 1970-71 through 1975-76 are presented that focus on trends in associate degrees and other formal awards below the baccalaureate. Emphasis is placed on comparable data for curriculum categories and divisions, types of institutional units, and classification of awards. The information is useful in forecasting employment opportunities, particularly in relation to the educational and employment status of women, whose enrollments in associate degree programs have been increasing. Degrees and awards requiring less than two years of work are not included, nor are data from non-traditional and non-degree-granting institutions. Highlights include the following: (1) the number of sub-baccalaureate degrees awarded increased by 54.9% in the six-year period studied; (2) although men still outnumbered women among degree recipients, women's representation increased from 42.8% to 46.2% over the six-year period; (3) there was a sharp increase to 48.5% in the number of women receiving degrees in science/engineering curriculums; (4) there was a marked shift for both men and women away from the arts and sciences and general programs toward occupational programs; and (5) the greatest proportion of sub-baccalaureate degrees were earned at two-year public institutions, which showed a 61.2% increase in awards since 1970-71. (MB)

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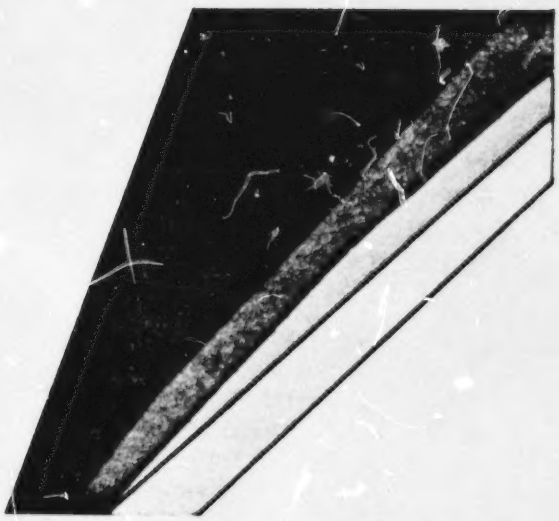

ASSOCIATE DEGREES AND OTHER FORMAL AWARDS BELOW THE BACCALAUREATE:

ANALYSIS OF 6-YEAR TRENDS

by
Gerald S. Malitz
National Center for
Education Statistics

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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HIGHLIGHTS

The number of sub-baccalaureate degrees awarded increased by 54.9 percent in the 6-year period between 1970-71 and 1975-76, far outstripping the increase in bachelor's degrees awarded.

Although men still outnumber women among degree recipients, women's representation increased from 42.8 to 46.2 percent over the 6-year period.

There was a sharp increase in the number of women receiving degrees in science/engineering-related curriculums. In 1975-76, 48.5 percent, or almost half, of all awards in this category were awarded to women.

There was a marked shift for both men and women away from arts and sciences and general programs toward occupational curriculums. In 1972-73, for the first time, more than half (51.5 percent) of the awards were granted in occupational categories.

By far, the greatest proportion of sub-baccalaureate degrees were earned at 2-year public institutions, which showed a 61.2 percent increase in awards conferred since 1970-71.

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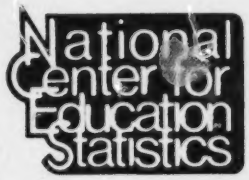

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FOREWORD

Interest in the number of associate degrees and other sub-baccalaureate awards conferred has been increasing in recent years. Data about the volume of these awards is important in forecasting employment opportunities. It is of particular interest to those concerned about the educational and employment status of women, who have been enrolling in such programs in ever growing numbers. In fact, the number of these degrees and awards conferred on both men and women has shown the largest numerical increase among all levels of degrees over the 6-year period between 1970-71 and 1975-76.

The survey on which this report is based is part of the Higher Education General Information Survey (HEGIS) conducted annually by the National Center for Education Statistics (NCES) and has been published in annual reports entitled *Associate Degrees and Other Formal Awards Below the Baccalaureate.*

This report focuses on the years 1970-71 through 1975-76, a period for which comparable data are available in terms of curriculum categories and divisions, types of institutional units, and classifications of awards. Each survey year extends from July 1 of one calendar year through June 30 of the next, corresponding to the usual academic year. Included are associate degrees and all other formal awards which require at least 2 but less than 4 years of postsecondary work, regardless of whether or not the work was intended to be wholly or chiefly creditable towards a baccalaureate degree. Degrees and awards requiring less than 2 years of work are not included. Nontraditional institutions (i.e., adult vocational/technical institutes) as well as non-degree granting institutions are not a part of the survey universe.

Rolf Wulfsberg, Acting Director
Division of Postsecondary and
Vocational Education Statistics

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Systems Design and Analysis Branch

ACKNOWLEDGMENTS

The cooperation of the college and university officials who supplied the institutional data is gratefully acknowledged. It was their work in preparing the survey responses which made this report possible.

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OVERVIEW

The rapid growth rate in the number of sub-baccalaureate awards (i.e., associate degrees et al.) granted in the 6-year period between 1970-71 and 1975-76 greatly outdistanced the much slower growth rate for bachelor's degrees. During those 6 years 2,105,027 sub-baccalaureate awards were conferred – with the number increasing by 54.9 percent from the 272,862 awarded in 1970-71 to the 422,586 awarded in 1975-76 (figure 1 and table 4). In contrast, the number of bachelor's degrees awarded increased only 10.4 percent over the same period. Sub-baccalaureate degrees as a percentage of bachelor's degrees grew from 32.2 percent at the beginning of the period to 45.2 percent, almost half, at the end.

SEX OF RECIPIENT

Although men still outnumber women among degree recipients, women's representation did increase over the 6-year period, from 42.8 percent to 46.2 percent (table 1 and figure 2). This represents a 66.9 percent increase compared to a 45.8 increase for men (table 2). Of the total number of degrees awarded between 1970-71 and 1975-76, men received 55.1 percent and women, 44.9 percent (derived from table 3).

The types of fields women are preparing to enter appear to be shifting. In the 6-year period, the percentage of sub-baccalaureate degrees received by women in occupational curriculums increased from 42.4 to 47.0 percent while for arts and sciences or general programs, the increase was much smaller, from 43.2 to 45.1 percent (table 1). Within occupational curriculums, in science and engineering-related programs, women accounted for almost half (48.5 percent) of all degrees in this curriculum category in 1975-76 (up from 38.2 in 1970-71). By contrast, the percentage of degrees received by women in non-science and non-engineering technologies decreased, from 47.4 percent in 1970-71 to 45.3 percent in 1975-76 even though the actual number of awards to women increased.

Although women's representation in 1975-76 was still highest in the health services/paramedical division (86.0 percent), this was a drop from the 89.9 percent of 1970-71. The greatest jump in degrees awarded to women occured in natural science technologies, which increased from 22.2 to 31.4 percent in the 6-year period.

Overall, women had greater percentage increases than men in all but two curriculum divisions, health services/paramedical and public service-related technologies. Women showed the greatest increase in the mechanical/engineering technologies category (314.1 percent) – although their representation in this category was still small in 1975-76 (3.8 percent) – followed by natural science technologies with an increase of 208.4 percent.

CURRICULUM AND OCCUPATIONAL OUTLOOK*

There was a marked shift in conferrals over the 6-year period away from arts and sciences or general programs toward occupational curriculums (figure 3). In 1970-71 arts and sciences or general programs accounted for 54.5 percent of the total awards. By 1972-73, more than half (51.5 percent) of the awards were granted in occupational categories (tables 4 and 5). This proportion increased to 57.5 percent by 1975-76.

This gain is reflected in both classifications which comprise occupational curriculums – science- and engineering-related curriculums (which increased from 25.0 percent to 30.2 percent) and nonscience- and nonengineering-related curriculums (which increased from 20.5 percent to 27.3 percent).

*Occupational Outlook Handbook, 1976-77 Edition. U.S. Department of Labor, Bureau of Labor Statistics.

Within the first classification, data processing technologies showed an overall decrease in conferrals. (In fact, this was the only occupational division to show a decrease—accounted for by the 15.1 percent decrease in all data processing specialties, except for computer programming (table 6).) While the short-term outlook for computer programmers is good, the number of degrees in this field increased by only 29.6 percent over the 6-year period. It may be that the jobs are being filled by graduates of baccalaureate programs or of schools which offer training only in computer specialties (and therefore are not covered in this survey).

In the health services and paramedical technologies division, two specialities, dental hygiene and nursing (R.N.), stand out as producing a substantial portion of conferrals. Dental hygiene conferrals increased 43.8 percent between 1970-71 and 1975-76, corresponding to a very good employment outlook. R.N. conferrals, on the other hand, increased by 137.3 percent although the job outlook in this field indicates a rough balance between demand and supply, with increasing competition for the better jobs.

The specialties within the mechanical and engineering technology division appear to face a balance between supply and demand for jobs in the near future. This is consistent with the 49.7 percent increase in conferrals in this division over the 6-year period. In the natural science technologies division, awards increased by 118.0 percent despite an unfavorable job outlook. Within the second occupational classification, business and commerce technologies are facing a rough balance between supply and projected demand, except for the secretarial field, where the employment outlook is very good. This outlook is compatible with the 61.6 percent increase in conferrals in secretarial technologies.

In public service-related technologies, the three specialties with the highest number of awards have produced differing results. Police, law enforcement, and corrections technologies and recreation and social work technologies, both with favorable job outlooks, showed substantial increases in awards. Yet, in the field of education, which has poor employment prospects, awards increased by 74.3 percent in the 6-year period.

In cases where supply seems to be outstripping demand, the reason may lie in poor counseling of students, directing them to enter fields in which there are few jobs. Also, in certain specialties in which small numbers of awards are conferred yearly, overzealous efforts on the part of schools to meet local shortages can result in national surpluses. It is not possible, however, to draw conclusions about either type of situation on the basis of the limited data available.

TYPE OF INSTITUTION

By far, the greatest proportion of sub-baccalaureate degrees in 1975-76 (337,507 or 79.9 percent) were earned at 2-year public institutions, which showed a 61.2 percent increase in awards conferred since 1970-71 (tables 7 and 8). Although private 4-year institutions showed an even larger percentage increase (76.5) they only awarded 6.3 percent of all sub-baccalaureate degrees in 1975-76. In fact, private institutions – both 2-year and 4-year – together conferred only 12.8 percent of the awards in 1975-76 (down from 16.0 percent in 1970-71). Two-year private institutions actually showed the only decrease (3.8 percent) over the 6-year period in the number of these degrees awarded. One possible reason for that decrease was that there were fewer private 2-year schools in 1975-76 (240) than there were in 1970-71 (251).

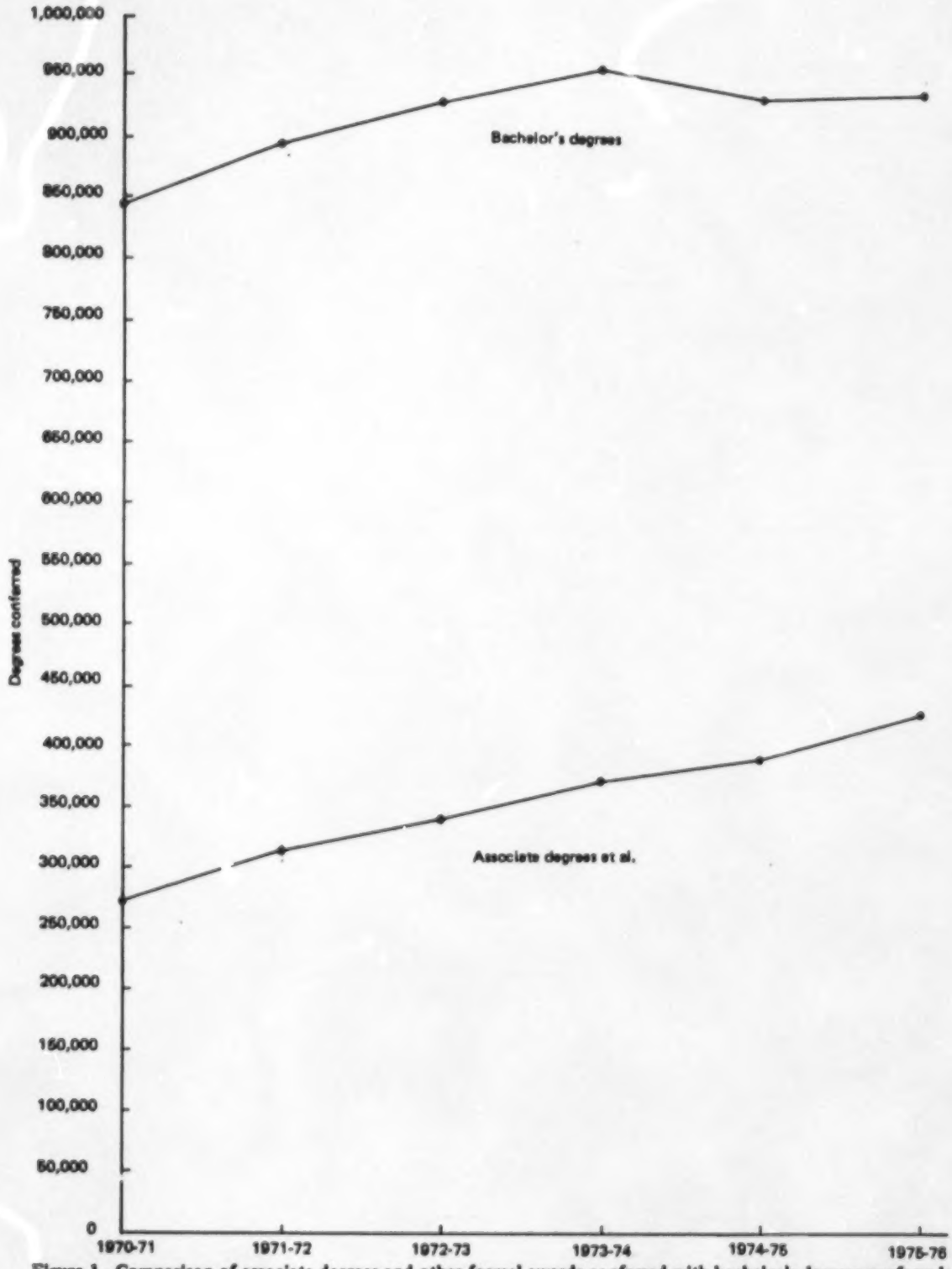

Figure 1.–Comparison of associate degrees and other formal awards conferred with bachelor's degrees conferred: Aggregate United States, 1970-71 – 1975-76

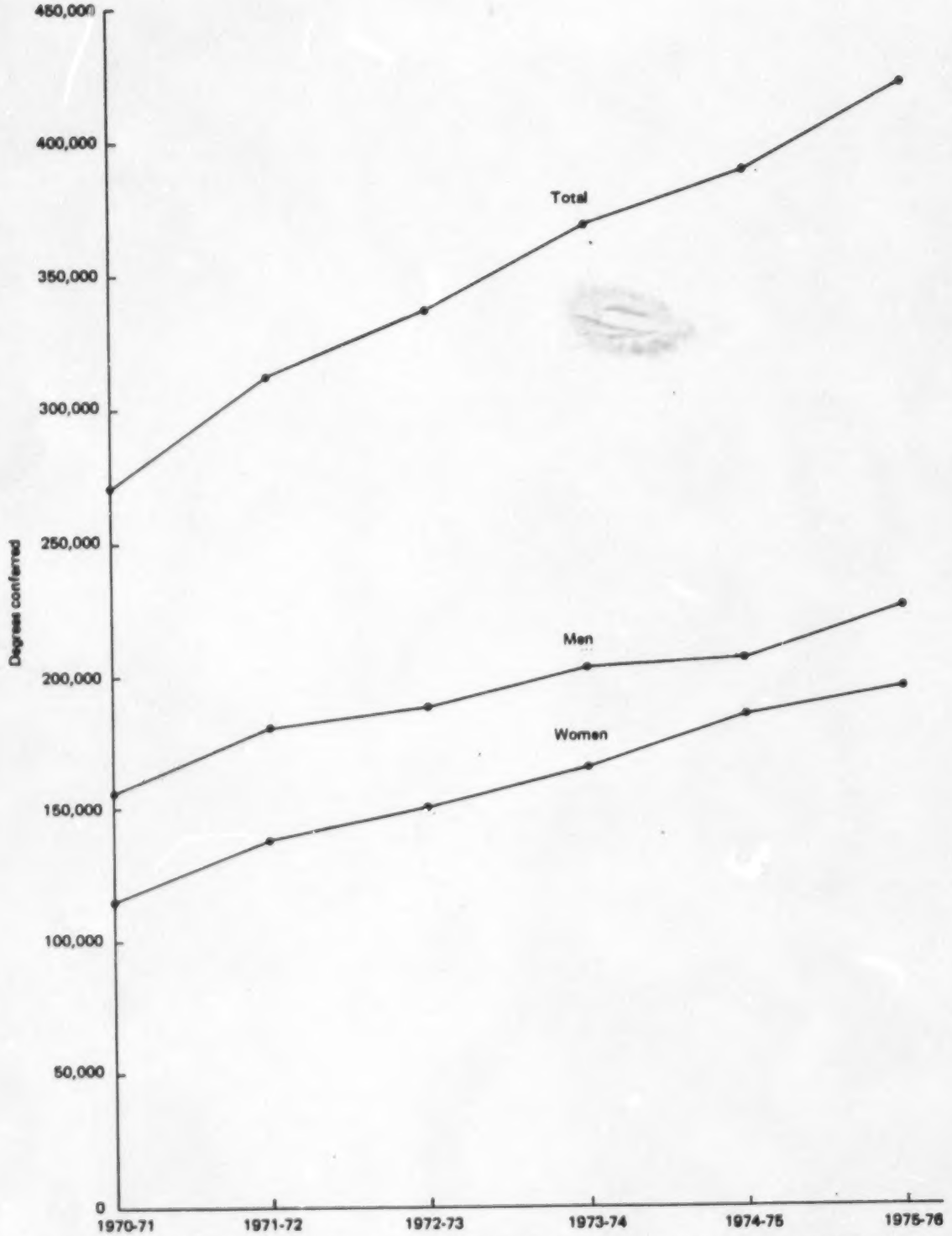

Figure 2.–Associate degrees and other formal awards conferred, by sex: Aggregate United States, 1970-71 – 1975-76

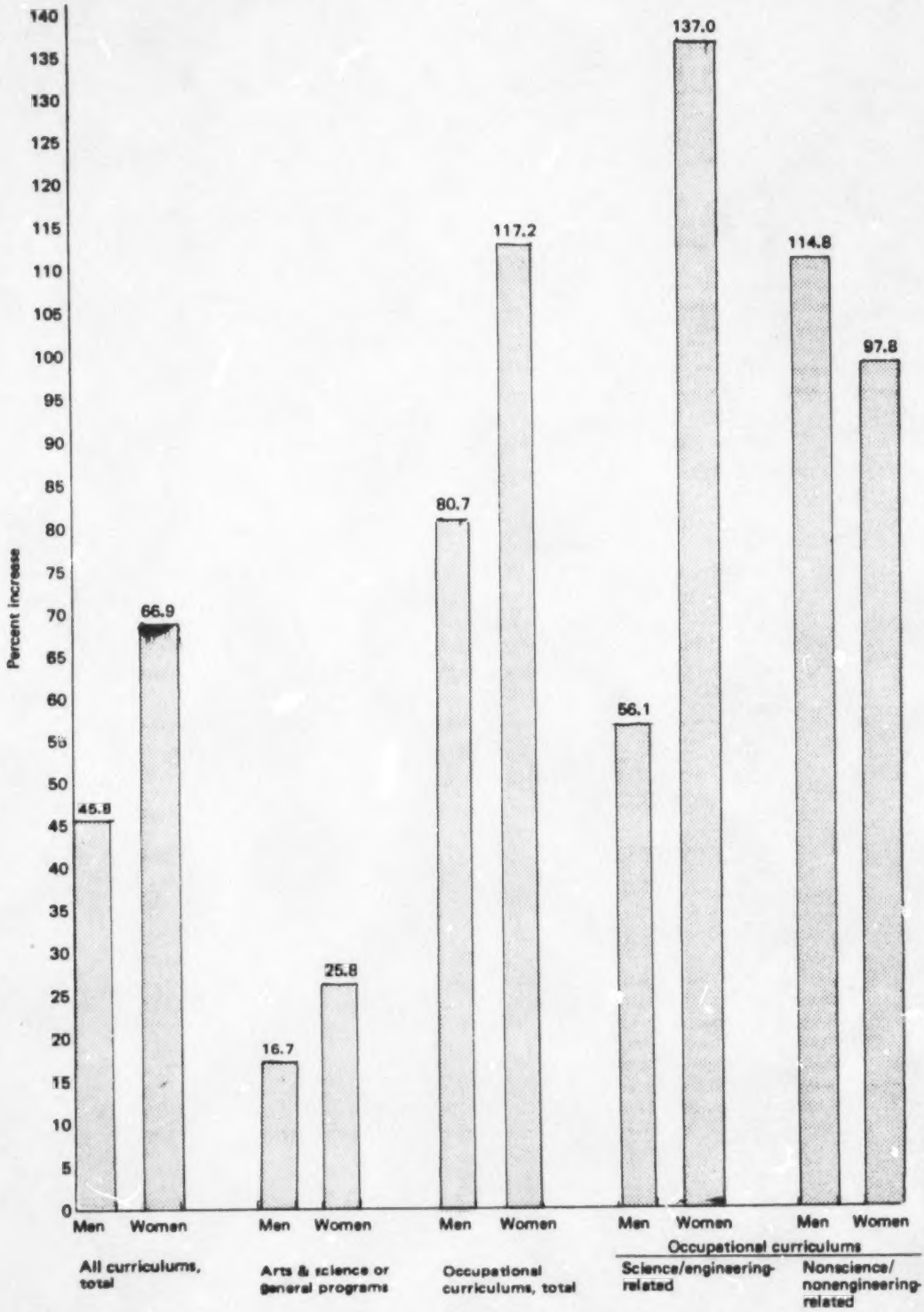

Figure 3.–Percent increases in associat degrees and other formal awards conferred, by curriculum category and sex: Aggregate United States 1970-71 to 1975-76

Table 1.–Percent distribution of associate degrees and other formal awards received by women, by curriculum category and division: Aggregate United States, 1970-71 – 1975-76

Curriculum category and division	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
All curriculums, total	42.8	43.0	44.6	45.1	46.7	46.2
Occupational curriculums	42.4	43.1	45.6	46.4	47.8	47.0
Science/engineering-related	38.2	40.5	45.3	46.6	47.9	48.5
Data processing technologies	31.8	30.0	31.6	31.1	32.6	37.8
Health services/paramedical technologies	89.9	88.8	87.2	85.7	85.5	86.0
Mechanical/engineering technologies	1.4	1.4	2.1	2.2	2.6	3.8
Natural science technologies	22.2	25.6	24.3	27.5	30.9	31.4
Nonscience/nonengineering-related	47.4	46.2	45.9	46.2	47.7	45.3
Business and commerce technologies	49.3	48.9	50.0	50.9	51.9	50.0
Public service-related technologies	40.4	38.8	36.6	35.6	38.6	36.1
Arts and science or general programs	43.2	43.0	43.6	43.5	45.3	45.1

Table 2.–Percent change in associate degrees and other formal awards conferred, by sex and by curriculum category and division: Aggregate United States, 1970-71 – 1975-76

Curriculum category and division	Percent change 1970-71 to 1975-76	
	Men	Women
All curriculums, total	45.8	66.9
Arts ans science or general programs	16.7	25.8
Occupational curriculums	80.2	117.2
Science/engineering-related	56.1	137.0
Data processing technologies	−13.5	12.8
Health services/paramedical technologies	253.6	142.9
Mechanical/engineering technologies	46.1	314.1
Natural science technologies	92.3	208.4
Nonscience/nonengineering-related	114.8	97.8
Business and commerce technologies	80.9	82.5
Public service-related technologies	216.8	163.5

Table 3.–Associate degrees and other formal awards conferred, by sex and by curriculum category and division: Aggregate United States, 1970-71 – 1975-76

Curriculum category and division	Men						Women					
	1970-71*	1971-72*	1972-73*	1973-74	1974-75	1975-76	1970-71*	1971-72*	1972-73*	1973-74	1974-75	1975-76
All curriculums, total	155,979	178,691	187,105	203,042	206,867	227,483	116,883	135,066	150,652	166,901	181,255	195,103
Arts and science or general programs	84,452	91,806	92,359	95,039	93,169	98,577	64,317	69,227	71,297	73,366	77,004	80,908
Occupational curriculums	71,527	86,885	94,746	108,003	113,698	128,906	52,566	65,839	79,355	93,535	104,251	114,195
Science/engineering-related	42,123	49,405	51,789	57,296	61,684	65,742	26,090	33,664	42,834	50,036	56,821	61,837
Data processing technologies	5,156	5,485	5,225	4,819	4,600	4,460	2,408	2,356	2,414	2,179	2,221	2,716
Health services/paramedical technologies	2,455	3,616	5,482	7,346	8,415	8,681	21,915	28,672	37,428	43,861	49,528	53,237
Mechanical/engineering technologies	29,761	34,058	34,047	36,802	39,713	43,467	411	488	734	829	1,062	1,702
Natural science technologies	4,751	6,246	7,034	8,329	8,956	9,134	1,356	2,148	2,258	3,167	4,010	4,182
Nonscience/nonengineering-related	29,404	37,480	42,957	50,707	52,014	63,164	26,476	32,175	36,521	43,499	47,430	52,358
Business and commerce technologies	22,067	26,065	27,635	32,103	32,714	39,924	21,504	24,938	27,676	33,223	35,322	39,255
Public service-related technnologies	7,337	11,415	15,322	18,604	19,300	23,240	4,972	7,237	8,845	10,276	12,108	13,103

*Does not include those below the technical or semiprofessional level.

Table 4.–Associate degrees and other formal awards conferred and percent change, by curriculum category and division: Aggregate United States 1970-71 – 1975-76

Curriculum category and division	1970-71*	1971-72*	1972-73*	1973-74	1974-75	1975-76	Percent change 1970-71 – 1975-76
All curriculums, total	272,862	313,757	337,757	369,943	388,122	422,586	54.9
Arts and science or general programs	148,769	161,033	163,656	168,405	170,173	179,485	20.7
Occupational curriculums	124,093	152,724	174,101	201,538	217,949	243,101	95.9
Science/engineering-related	63,213	83,069	94,623	107,332	118,505	127,579	87.0
Data processing technologies	7,564	7,841	7,640	6,998	6,821	7,176	–5.1
Health services/paramedical technologies	24,370	32,288	42,910	51,207	57,943	61,918	154.1
Mechanical/engineering technologies	30,172	34,546	34,781	37,631	40,775	45,169	49.7
Natural science technologies	6,107	8,394	9,292	11,496	12,966	13,316	118.0
Nonscience/nonengineering-related	55,880	69,655	79,478	94,206	99,444	115,522	106.7
Business and commerce technologies	43,571	51,003	55,311	65,326	68,036	79,179	81.7
Public service-related technologies	12,309	18,652	24,167	28,880	31,408	36,343	195.3

*Does not include those below the technical or semiprofessional level.

Table 5.–Percent distribution of associate degrees and other formal awards conferred, by curriculum category and division: Aggregated United States, 1970-71 – 1975-76

Curriculum category and division	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
All curriculums, total	100.0	100.0	100.0	100.0	100.0	100.0
Arts and science or general programs	54.5	51.3	48.5	45.5	43.8	42.5
Occupational curriculums	45.5	48.7	51.5	54.5	56.2	57.5
Science/engineering-related	23.0	26.5	28.0	29.0	30.5	30.2
Data processing technologies	2.8	2.5	2.3	1.9	1.8	1.7
Health services/paramedical technologies	8.9	10.3	12.7	13.8	14.9	14.6
Mechanical/engineering technologies	11.1	11.0	10.3	10.2	10.5	10.7
Natural science technologies	2.2	2.7	2.8	3.1	3.3	3.2
Nonscience/nonengineering-related	20.5	22.2	23.5	25.5	25.6	27.3
Business and commerce technologies	16.0	16.3	16.4	17.7	17.5	18.7
Public service-related technologies	4.5	5.9	7.2	7.8	8.1	8.6

Table 6.–Percent change between 1970-71 and 1975-76 in associate degrees and other formal awards conferred, by curriculum division and specialty, compared with employment outlook: Aggregate United States

Curriculum division and specialty*	Number	Percent of total division	Percent change 1970-71	Current employment outlook**
Data processing technologies	7,176	100.0	–[illegible].1	
Data processing, general	3,989	55.6	–1[illegible].1	Not precise enough to predict
Computer programming technologies	2,547	35.5	25.6	Favorable
Health services/paramedical technologies	61,918	100.0	154.1	
Dental hygiene	3,538	5.7	43.8	Very good
Nursing, R.N.	34,187	55.2	137.3	Good, but competition developing
Mechanical/engineering technologies	45,169	100.0	49.7	Favorable
Natural science technologies	13,316	100.0	118.0	
Forestry & wildlife technologies	2,133	16.0	122.9	May face competition
Business and commerce	79,179	100.0	81.7	
Accounting technologies	9,374	11.8	94.2	Good
Marketing/distribution/purchasing/business/ industrial management	19,926	25.2	130.4	Favorable in some areas, competition in others
Secretarial technologies	19 704	24.9	61.6	Very good
Public service-related technologies	36,343	100.0	195.3	
Police, law enforcement, corrections	18,698	51.4	239.8	Good
Recreational and social work-related technologies	3,009	8.3	168.4	Good
Education technologies	5,840	16.1	74.3	Keen competition

*Only major, identifiable specialties are listed and will therefore not add to totals for categories.
**The *Occupational Outlook Handbook*, 1976-77 edition, uses the following definitions to describe the demand/supply relationship for jobs between 1974 and 1985:

Excellent	Demand much greater than supply
Very good	Demand greater than supply
Good or favorable	Rough balance between demand and supply
May face competition	Likelihood of supply greater than demand
Keen competition	Supply greater than demand

Table 7.–Associate degrees and other formal awards conferred, by control and level of institution: Aggregate United States, 1970-71 – 1975-76

Control and level of institution	1970-71*	1971-72*	1972-73*	1973-74	1974-75	1975-76	Percent change 1970-71 – 1975-76
All institutions	274,319	316,072	341,290	369,943	388,122	422,586	54.0
4-year	36,258	39,041	46,597	52,414	58,105	57,502	58.6
2-year	238,061	277,031	294,693	317,529	330,017	365,084	53.4
Public	230,548	272,765	297,233	321,985	339,224	368,335	59.8
4-year	21,143	23,355	28,330	32,456	35,536	30,828	45.8
2-year	209,405	249,410	268,903	289,529	303,688	337,507	61.2
Private	43,771	43,307	44,057	47,958	48,898	54,251	23.9
4-year	15,115	15,686	18,267	19,958	22,569	26,674	76.5
2-year	28,656	27,621	25,790	28,000	26,329	27,577	–3.8

*Does not include those below the technical or semiprofessional level.

Table 8.–Percent distribution of associate degrees and other formal awards conferred, by control and level of institution: Aggregate United States, 1970-71 – 1975-76

Control and level of institution	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
All institutions	100.0	100.0	100.0	100.0	100.0	100.0
4-year	13.2	12.4	13.7	14.2	15.0	13.6
2-year	86.8	87.6	86.2	85.9	85.0	86.4
Public	84.0	86.2	86.9	87.1	87.4	87.2
4-year	7.7	7.4	8.3	8.8	9.2	7.3
2-year	76.3	78.8	78.6	78.3	78.2	79.9
Private	16.0	13.8	13.0	13.0	12.6	12.8
4-year	5.5	5.0	5.4	5.4	5.8	6.3
2-year	10.5	8.8	7.6	7.6	6.8	6.5

APPENDIX, WHICH CONTAINS A REPRODUCTION OF THE SURVEY FORM, HAS BEEN DELETED DUE TO IRREPRODUCIBILITY. THE SURVEY INSTRUMENT WAS OE FORM 2300-2.1, 3/75, "Degrees and other formal awards conferred between July 1, 1974 and June 30, 1975."

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